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Original Report

Antibiotic Susceptibility Pattern of Gram-positive Cocci Cultured from Patients in Three University Hospitals in Tehran, Iran during 2001-2005

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Abstract:

Bacterial resistance to antibiotics is a serious problem and is increasing in prevalence world-wide at an alarming rate. The antimicrobial susceptibility patterns of 1897 gram-positive bacterial Isolates were evaluated. The minimum inhibitory concentration (MIC) of isolates which comprised *Staphylococcus aureus* (927 isolates), coagulase-negative staphylococci (CNS: 425 isolates), *Enterococcus faecalis* (320 isolates), *Enterococcus faecium* (157 isolates), and pneumococci (50 isolates) collected from 3 teaching hospitals in Tehran were determined by agar dilution method according to Clinical and Laboratory Standards Institute (CLSI) guidelines. The presence of *mecA* gene was investigated in methicillin-resistant staphylococci by PCR method and *vanA* and *vanB* genes were targeted in enterococcal isolates by Multiplex PCR method. The resistance rate to methicillin among *S. aureus* and CNS isolates were 33% and 49%, respectively. All *S. aureus* isolates were susceptible to vancomycin. The lowest rate of resistance in all *S. aureus* isolates was found for rifampicin (<4%). The vancomycin resistance rate in enterococci isolates was 11% which was more frequent among *E. faecium* (19%) than *E. faecalis* (4%), all resistant isolates carrying *vanA*. High-level resistance to gentamicin and streptomycin, were detected in 47% and 87% of enterococcal isolates respectively. The rate of penicillin resistance in pneumococci was 3% and about 27% of isolates had reduced susceptibility to penicillin. The prevalence of erythromycin resistant among pneumococci was 58%. All pneumococcal isolates were susceptible to ceftriaxone, rifampicin and vancomycin. Our data highlight the importance of access to updated bacterial susceptibility data regarding commonly prescribed agents for clinicians in Iran.

Keywords:

Antimicrobial susceptibility patterns , gram-positive Cocci , TUMS ID: 14512

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